User Centered Design

User is the last judge of the quality of a system. Ie will it help them perform their task?

Principles of User Centered Design:

1. Focus early on users and their work
2. Evaluate designs to ensure usability
3. Use iterative development

Use Cases and the Menu Hierarchy

Menus are a typical way to organize access to use case functionality

Different menus for different actors

Useful to design an overall menu hierarchy and then subsets for different users

System Inputs

Primary Objective is Error Free Input

Use electronic devices wherever possible

Avoid human involvement as much as possible

If information is already available in electronic form, use it instead of re-entering information

Validate and correct information at time and location entered

Device Examples

Magnetic card strip readers, bar code readers, optical character recognition, radio frequency ID tags (RFID), touch screen, electronic pens, digitizers, speech recognition

Metaphors of Human Computer Interaction

Metaphor	Description
Direct manipulation	Manipulating objects on a display that look like physical objects (pictures) or that represent them (icons)
Desktop	Organizing visual display into distinct regions, with a large empty workspace in the middle and a collection of tool icons around the perimeter
Document	Visually representing the data in files as paper pages or forms. These pages can be linked together by references (hyperlinks)
Dialog	The user and computer accomplishing a task by engaging in a conversation or dialog by using text, voice, or tools, such as labeled buttons

System Outputs

Detailed reports: specific information on business transactions

Summary reports: summarize detail or recap periodic activity

Exception reports: provide details or summary information about transactions or operating results that fall outside a predefined normal range of values

Executive reports: used by high level managers to assess overall organizational health and performance

Internal outputs produced for use within the organization

External outputsproduced for use by people outside the organization. Statements, notices, stockholder reports. Higher quality, color, reflect image of organization

Turnaround documents external outputs that includes one or more parts intended to be returned with new data or information. Bills with remittance vouchers

User Interface Design Guidelines

Design for Consistency

Provide Shortcuts

Provide Feedback

Dialogs Should Yield Closure

Error Handling that Provides Guidance

Easy Reversal of Actions

Reduce Short Term Memory Load

Guidelines: Web Browser User Interfaces

Consistency

Cascading Style Sheets (CSS) – Web page encoding standard that enables a Web site designer to specify parts of a page that will always look the same and parts that will vary by task or audience

Performance Considerations

Sensitive to network connection, amount of information transmitted, type of information transmitted

Pictures, Video, and Sound

Powerful, but compatibility issues arise

Dialog Design

For each use case, think of the natural flow of a dialog between user and computer

Based on the flow of activities in use case description or activity diagram

Use natural language to dialog with user

Create a storyboard of the dialog, showing the sequence of sketches of the screen each step of the dialog. (storyboarding)

Review the storyboard with users



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Published 31st May, 2015.

Last updated 11th May, 2016.

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